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ABSTRACT

This paper examines research on peer mentoring programs, highlighting their benefits and noting conditions and components of successful programs. Research shows that elementary peer mentoring programs can increase the use of critical thinking skills, interpersonal skills, and conflict resolution skills. Studies also highlight the benefits of cross-age mentoring and peer tutoring programs. Many studies show positive effects of classwide peer tutoring. Peer mentoring programs have been implemented successfully to help ease the transition from one level of schooling to the next. There is substantial evidence suggesting that peer mentoring can be used successfully to reduce absenteeism and lower dropout rates among high school students. Reciprocal peer tutoring (RPT) has proven beneficial to both tutors and tutees. Even low-achieving older students and mainstreamed special education students can benefit from RPTs programs. Components of successful mentoring programs depend upon the specific procedures that are most effective in each particular circumstance. Successful programs should help teachers become facilitators who oversee their students' mastery of necessary concepts and skills, and guide them toward independent learning. It is important to match tutors and tutees carefully. Tutors must receive systematic training of the proper duration. Teacher supervision is essential. (Contains 32 references.) (SM)

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EFFECTIVENESS OF CROSS-AGE AND PEER MENTORING PROGRAMS

Patricia Gensemer

School administrators, teachers, and parents have become increasingly concerned about the problems facing the children of our nation today. These problems are manifested in our schools in various areas such as decreases in academic achievement, increased absenteeism, lack of interpersonal skills, and inability to think critically. A number of intervention strategies have been suggested to remedy these problems, one of which is peer and cross-age mentoring programs. Although this is certainly not a new strategy it is periodically rediscovered and examined in classrooms throughout the world. The results of several peer mentoring programs will be examined in an attempt to determine the benefits derived from the implementation of such programs and the conditions and components of successful peer mentoring programs.

Research shows that peer mentoring programs in elementary schools can achieve increases in the use of critical thinking skills, improvements in interpersonal skills, and increases in the use of conflict resolution skills. Success was seen in all these areas in an action research project involving students in grades four to six in an industrial, urban Illinois community. Students were trained in a peer mentoring program to serve as mentors for teaching social skills, conflict resolution, and critical thinking. Observation checklists were used to document the number of occurrences of targeted behaviors considered counterproductive to learning. Students showed both quantitative and qualitative improvements in behaviors such as not being on task and derogatory language/put downs after a three-month time period. Researchers also saw students able to use problem-solving skills to resolve conflicts with each other, increased time-on-task, and academic growth (Brauer, Grady, Matthews, & Wilhite, 1997).

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Benefits have also been shown from studies involving cross-age mentoring programs. When sixth-grade students who were average or below average readers were paired with kindergarten students for weekly 45-minute sessions of collaborative reading and writing in a program lasting from October until June, both groups of students showed an increase in positive attitudes toward reading and writing with a partner. Data collected from parents showed about 70% of the sixth-grade participants to be engaging in the target behavior of choosing to read on their own. The sixth-grade teacher also noticed academic gains with students showing an increased ability to identify structural elements of novels (Leland & Fitzpatrick, 1993). A rural school in Vermont was the setting for a peer leadership program developed to promote social skills of early adolescent students whose needs were not being addressed at the school. Twenty high school students were trained in two full days of training sessions to assist students in grades seven and eight in building successful relationships with others. Peer leaders and the younger students participated in activities such as field trips, challenge games, and service projects involving visiting and assisting the elderly. Peer leaders experienced success in their leadership roles and teachers reported increased attention and attendance for the 30 at-risk students participating in this program. A 30% decline was also seen in the number of disciplinary referrals from fall to spring in seventh and eighth graders (Devlin-Scherer, 1997). Similar results have been seen in numerous other programs in which both the tutor and the tutee experienced positive effects in attitudes as well as academic performance (Cohen, Kulik, & Kulik, 1982; Palincsar, Brown, & Martin, 1987).

In a cross-age tutoring program involving fourth graders tutoring first graders in math, results showed a 30 percent increase on the posttest to an average of 80 percent accuracy. Both tutors and tutees seemed to grow in self-esteem in this model in which tutors were

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trained to use a three-step system which teaches tutors to *pause*, *prompt*, and *praise* (Eggers, 1995). Schneider and Barone (1997) reported that third and fourth graders involved in tutoring first and second graders became more responsible and independent in classroom learning and began to look to each other for support instead of coming to the teacher. As students began to initiate their own learning, the teacher saw her role as changing to one of a facilitator. Students began to discuss problem-solving strategies and came to respect each other as learners and teachers.

DePaulo et al. (1989) concluded that cross-age tutoring is most successful since older students are seen as role models and the older tutors have first-hand experience in the school setting. Other research showed that a one to two year age difference is most effective, and related that these successful peers understand the rules and have developed positive ways to overcome problems (Schrader & Valus, 1990; Jason et al., 1992). Two primary-level peer-tutoring field studies using math manipulatives found at least a two year age difference to be advisable and stated that both tutor and tutee realized empowerment to become more self-directed in their learning. These studies demonstrated that advantages such as enhanced self-esteem, enhanced academic learning time, and enhanced sense of responsibility were experienced by students with various learning styles as well as by learning-disabled and physically handicapped students (Barone & Taylor, 1996).

A substantial number of studies have been conducted on the effects of classwide peer tutoring. The Juniper Gardens Children's Project in Kansas City was developed by Greenwood and his associates in order to improve instruction for minority, disadvantaged, and/or learning disabled children. This program showed positive results using classwide peer tutoring in order to improve skills in reading, math, and spelling (Delquadri, Greenwood, Whorton, Carta & Hall, 1986). Studies involving inner-city Chapter 1 students and special

education students showed a decrease in spelling errors when peer tutoring procedures were used in comparison to teacher-directed instruction (Hall, Delquadri, Greenwood, & Thurston, 1982 as cited by Shapiro, 1988). Significant improvement was also shown in spelling, vocabulary, and mathematics compared to teacher developed instruction when an evaluation was made of the entire classwide tutoring program. Regardless of treatment order or subject matter content, classwide peer tutoring produced more student academic responding and higher weekly test scores. (Greenwood et al., 1984). A large-scale field replication study of classwide peer tutoring of two hundred and eleven inner-city students found significantly higher gains for both low and high student groups and a high degree of satisfaction with participation in the program (Greenwood et al., 1987).

Peer mentoring programs have sometimes been implemented in order to ease the transition from one level of schooling to the next, for example from middle school to high school. In one such study, freshmen were found to have higher rates of absenteeism and failing grades than any other group of students. Eleventh-grade volunteers were trained in five intensive after-school workshops to develop skills in areas such as basic counseling skills, active listening, and goal setting. Over a three-month period, mentors met with target students during lunch and talked with them over the phone. Even though the objectives of 90% of the target group showing no zeroes, 98% average daily attendance, and 100% participation in extracurricular activities was not achieved, positive results did occur. Twelve of the eighteen students showed an improvement in their attendance and grades with an average gain of .64 in grade point average from the 2nd Quarter to the 3rd Quarter. A dramatic increase was also seen in the grade point average of two of the mentors and mentors observed that they felt good about helping someone (Thompson, 1991).

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Since academic, behavioral and emotional difficulties often result during transitions from elementary school to middle school, peer mentoring programs have been implemented to help resolve these problems. An eight-month intervention using tutors in the seventh and eighth grade was developed consisting of peer counseling, mentoring, and tutoring programs. Student mentors and tutors were taught the Pause, Prompt, and Praise tutoring method. Sixth graders met twice weekly with a mentor to work on academic and other concerns and to become acquainted. Detailed journals were kept by both tutors and tutees describing discussions, problems, and possible solutions. After an eight-month period, results showed a reduction in student-generated help forms requesting assistance with academic problems, absenteeism, and teacher-generated referrals for behavior problems (Leland-Jones, 1998).

There is substantial evidence to suggest that peer mentoring programs can be used successfully to reduce absenteeism and lower the dropout rate among high school students. In a study by Duckworth (1988) of responses from six urban high schools studied from 1983 to 1985, results showed that intervention programs such as a big brother or sister to provide guidance to freshmen were important in reducing absenteeism. A counseling program entitled Help Overcome Learner Dropouts (HOLD) was reported by Phillips (1980) in which peer counselors were trained to help students develop their own success objectives and overcome frustration. 72% of the target potential dropouts still remained in school after three years of implementation and showed positive results in areas such as attendance and credits earned. Dramatic results were achieved in a dropout prevention program funded by the W.K. Kellogg Foundation in six New York City high schools using a model called reciprocal tutoring. This program was designed to give all students the opportunity to be tutors and also experience the tutee role. In three schools a more traditional approach was

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taken with more accomplished students helping their less advanced peers. In the other three schools, students met in groups to discuss the tutoring and to have tutees consider the possibility of becoming tutors in the future. Tutees in the experimental group showed higher grades in subjects in which they were tutored, achieved better attendance records, and demonstrated a better comprehension of course material. Reciprocal tutoring was used in cross-age tutoring involving 6th graders who tutored 4th graders who, in turn, tutored 2nd graders. It has also been used in intra-class tutoring, in which the roles of tutor and tutee are regularly alternated. Furthermore, programs of reciprocal tutoring have been used to assist new immigrant students entering high school. Benefits can be seen in making all students feel valuable by giving them the opportunity to help and reducing the stigma associated with receiving help. Researchers concluded that in order for a reciprocal cross-age tutoring program to be successful it must have the full support of the teachers since the teacher becomes the facilitator of learning. Mutual support groups seem to be more favorable for development of partnerships and exchange of ideas (Gartner & Riessman, 1994).

In a reciprocal peer tutoring (RPT) program involving 12 low-income, underachieving elementary school students, the peer-managed group showed significant increases in the rate of accurate arithmetic performance over control students. Confidence in abilities to solve future problems grew in struggling students as they received immediate positive feedback (Fantuzzo, Polite, & Grayson, 1990). In a larger study of 64 academically at-risk children selected from 180 Black 4th- and 5th-grade classes, the effect of structured peer tutoring and group reward components of reciprocal peer-tutoring on their mathematics performance was examined. The setting for this study was an urban public elementary school in west Philadelphia. Intervention sessions were 45 minutes occurring two to three times weekly during classroom mathematics instruction as part of the regular school day. All students

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spent two 45-minute sessions discussing the benefits of working together, such as teamwork and cooperation. This was followed by specific training concerning intervention procedures. Students were randomly assigned to groups based on the presence or absence of the two major components. The groups were: (a) reward plus structure; (b) reward only; (c) structure only; and (d) no structure, no reward control. The highest levels of accurate mathematics computations and higher conduct ratings were seen in students receiving group rewards and an informational structure (Fantuzzo, King, & Heller, 1992).

Studies have shown that even low-achieving older students and mainstreamed special education students can improve their self-esteem as younger tutees learn and rely on their tutors for problems and advice (Osguthorpe, 1984). Casanova (19[illegible]) states that students should not automatically be disqualified from becoming a tutor because of poor grades. Low-achievers as well as high-achievers can become effective tutors when given the responsibility for a younger child's learning.

Greenwood, Carta, and Hall (1988) have documented several benefits derived from various peer intervention programs. These include a high degree of cost efficiency, academic gains that are even more effective than conventional methods, and improvements in peer relationships, behavior, and self-esteem. A meta-analysis by Levin, Glass, and Meister (1984) states that when compared to other practices such as reduced class size and computer-assisted instruction, the greatest effects per $100 spent were associated with pupil-to-pupil tutoring. Cross-age tutoring was observed to have a cost-effectiveness ratio approximately four times that of reducing class size and increasing instructional time.

COMPONENTS OF SUCCESSFUL PROGRAMS AND SUGGESTIONS

In various successful mentoring programs, researchers have pointed out several conditions or principles involved. The Juniper Gardens Children's project found that the general

principles on which this program was based which have been confirmed empirically included increasing the time of instructional interaction or opportunity to respond, the selection of key academic behaviors and skills, and dependency upon behavior analysis principles (Delquadri, Greenwood, Whorton, Carta, & Hall, 1986). Slavin (1997) concluded that four guidelines for a successful tutoring program consisted of identifying the assignment and its benefits to the students, offering praise for correct answers, meeting the performance criterion before moving on to the next assignment, and reviewing and recording the accomplishments. Positive class climate, active supervision, and daily measurements of students' progress are also important components of a successful mentoring program (Jenkins & Jenkins, 1987).

Casanova (1988) stated that a successful program involves class preparation, selection of tutors, preparation of tutors, monitoring by the teacher, and continuous assessment of student progress. The instructional purpose of the tutoring, the new roles that students will be playing, and teacher expectations need to be made very clear to students participating in the program. While using in-classroom tutoring programs, the role or tutor and tutee should be rotated so that some students are not always the tutors and others always the tutees. When tutors used the three-step system of *pause*, *prompt*, and *praise* tutees were given an opportunity to think and solve problems on their own. Palincsar, Brown, & Martin (1987) found that two important features of a peer tutoring intervention were the careful preparation of tutor and tutee, and encouragement of teachers to monitor the tutoring sessions. Caution should also be taken that tutors do not relay false information due to lack of knowledge. The Lake Washington School District (Kirkland, Washington) has implemented peer tutoring programs at both the elementary and secondary levels. These studies have found that the magnitude of tutoring effects depends considerably on various

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factors. Best results can be seen by using highly structured lesson formats, clearly defined objectives in terms of the teacher's classroom curriculum, and careful selection of tutoring content. Careful consideration should also be given to the frequency and duration of lessons and tutors must receive systematic training. For example, the Lake Washington model has an initial tutor training lasting approximately two weeks (Jenkins & Jenkins, 1987). Rekrut (1994) noted that training should be ongoing and should be provided prior to initial tutoring sessions. Programs that are successful usually provide training in the areas of interpersonal skills such as using positive statements, management skills, for example, having the proper materials, and content skills involving preparing lesson activities. Other studies advised that proper training includes modeling the activity for tutors, allowing the tutors to practice explaining the activity to another tutor, reversing the tutor/ tutee roles so that each student may practice, and evaluating the process (Barone & Taylor, 1996; Schneider & Barone, 1997).

In one study involving a three-month implementation period, mentors specifically cited problems related to time and suggested making a peer counseling class (lunch was not a good choice of time). Other recommendations included more training and a variety of activities (Thompson, 1991). Brauer (1997) also states that a six-month intervention period was not long enough and suggests that check lists used to tally behavior incidents should be user friendly. Greenwood and his associates working with elementary students at the Juniper Gardens Children's Project found the most effective time block to be 30 minutes, which included 10 minutes for each students to serve as a tutor, 10 minutes for each child to be tutored, and 10 minutes to add and post points (Delquadri, Greenwood, Whorton, Carta & Hall, 1986).

Rekrut (1994) relates that even though students of any age can act as tutors or tutees, most research has been done on programs involving cross-age tutors who were at least in the fifth grade. These students are mature enough to assume responsibility for younger students and their achievement patterns are relatively stable. High school students, usually 9th or 10th graders make up the next largest group of cross-age tutors. Many researchers have found that cross-age tutoring is more successful if there is at least a two-year age difference between tutor and tutee (Barone & Taylor, 1996; Schrader & Valus, 1990; Jason et al., 1992).

An important factor in establishing a successful mentoring program is matching the tutor with a tutee. When considering the gender issue, it has been found that both peer and cross-age pairs are more comfortable with same-sex partners, gender pairing being especially important for girls. If same-sex pairings are not possible, older girls may be tutors to younger boys (Berliner & Casanova, 1986; Rekrut, 1992).

Several research studies have revealed the importance of the use of journals by tutors and tutees. Students should make entries concerning discussions on problems and possible solutions and may be used to help tutors organize their thoughts, prepare lessons, make documentation and analysis. Tutors and tutees might be allowed to read each others comments or may even use a single-journal format to encourage bonding (Sprinthall & Scott, 1989; Barone & Taylor, 1996; Leland-Jones, 1998).

CONCLUSION

Research has shown that a substantial amount of evidence exists that peer tutoring and cross-age tutoring can be effective programs with various beneficial results such as academic gains, increased attendance, and enhanced self-esteem. Peer tutoring is one procedure which may increase a student's response opportunity and allow students to actively participate in the learning process.

It is often difficult for teachers alone to meet the needs of each individual child in a classroom. The implementation of mentoring programs may enable teachers to become facilitators to oversee their students' mastery of the necessary concepts and skills and guide them on the road to independent learning.

If a mentoring program is to be successfully implemented the program developers must look at the specific procedures that would be most effective in their particular circumstances and devise it in such a way as to help the teacher's workload.

There is still much research to be done, for example, in areas such as how mentoring programs may relate to prevention of problems, but their appears to be great promise that it may be effective in this area. With the support of teachers and administrators a cost-effective mentoring program can be implemented which may increase a student's chances of success in school, their independence and personal growth.

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REFERENCES

Barone, M. M., Taylor, L. (1996, September). Peer tutoring with mathematics manipulatives: A practical guide. Teaching Children Mathematics, 8-15.

Berliner, D., & Casanova, U. (1986). How to make cross-age tutoring work. Instructor, 95(9), 14-15.

Brauer, C., Grady, F., Matthews, K., & Wilhite, S. (1997). The effects of problem-solving on academic achievement in elementary education. Master's action research project, Saint Xavier University. (ERIC Document Reproduction Service No. ED 412 005)

Casanova, U. (1988, January). Peer tutoring: A new look at a popular practice. Instructor, 14-15.

Cohen, P., Kulik, J. & Kulik, C. (1982). Educational outcomes of tutoring: A meta-analysis of findings. American Educational Research Journal, 19, 237-248.

DePaulo, B. M., Tang, J., Webb, W., Hoover, C., Marsh, K., & Litowitz, C. (1989). Age difference in reactions to help in a peer tutoring context. Child Development, 60, 423-439.

Delquadri, J., Greenwood, C. R., Whorton, D., Carta, J. J., & Hall, R. V. (1986). Classwide peer tutoring. Exceptional Children, 52(6), 532-542.

Devlin-Scherer, R. (1997). Peer leadership in a rural school setting. Vermont. (ERIC Document Reproduction Service No. ED 412 484)

Duckworth, K. (1988, May). Coping with student absenteeism. The Practitioner, 14(4). (ERIC Document Reproduction Service No. ED 297 451)

Eggers, J. E. (1995, December). Pause, prompt, and praise: Cross-age tutoring. Teaching Children Mathematics, 216-218.

Fantuzzo, J. W., King, J. A., Heller, L. R. (1992). Effects of reciprocal peer tutoring on mathematics and school adjustment: A component analysis. Journal of Educational Psychology, 84(3), 331-339.

Fantuzzo, J. W., Polite, K., & Grayson, N. (1990). An evaluation of reciprocal peer tutoring across elementary school settings. Journal of School Psychology, 28, 309-323.

Gartner, A. J., & Riessman, F. (1994, November). Tutoring helps those who give, those who receive. Educational Leadership, 58-60.

Greenwood, C. R., Carta, J. J., & Hall, R. V. (1988). The use of peer tutoring strategies in classroom management and educational instruction. School Psychology Review, 17(2), 258-275.

Greenwood, C. R., Dinwiddie, G., Bailey, V., Carta, J. J., Dorsey, D., Kohler, F. W., Nelson, C., Rotholz, D., & Schulte, D. (1987). Field replication of classwide peer tutoring. Journal of Applied Behavior Analysis, 20(2), 151-160.

Greenwood, C. R., Dinwiddie, G., Terry, B., Wade, L., Stanley, S. O., Thibadeau, S., & Delquadri, J. C. (1984). Teacher- versus peer-mediated instruction: An ecobehavioral analysis of achievement outcomes. Journal of Applied Behavior Analysis, 17(4), 521-538.

Jason, L. A., Weine, A. M., Johnson, J. H., Warren-Sohlberg, L., Filipelli, L. A., Turner, E. Y., & Lardon, C. (1992). Helping transfer students: Strategies for educational and social readjustment. San Francisco, CA: Jossey-Bass.

Jenkins, J. R., & Jenkins, L. M. (1987, March). Making peer mentoring work. Educational Leadership, 64-68.

Leland, C., & Fitzpatrick, R. (1993, December/1994, January). Cross-age interaction builds enthusiasm for reading and writing. The Reading Teacher, 47(4), 292-301.

Leland-Jones, P. J. (1998). Improving the transition of sixth-grade students during the first year of middle school through a peer counselor mentor and tutoring program. Ed.D. Practicum II Report, Nova Southeastern University. (ERIC Document Reproduction Service No. ED 424 911)

Levin, H. M., Glass, G. V., & Meister, G. R. (1984). The cost-effectiveness of four educational interventions. Stanford, CA: Stanford University, Institute for Research on Educational Finance and Governance. (ERIC Document Reproduction Service No. ED 246 533)

Osguthorpe, R. T. (1984). Handicapped students as tutors for non-handicapped peers. Academic Therapy, 19, 473-483.

Palincsar, A. S., Brown, A. L., & Martin, S. M. (1987). Peer interaction in reading comprehension instruction. Educational Psychologist, 22(3 & 4), 231-253.

Phillips, M. (1980). Grab H.O.L.D.: Help overcome learner dropouts. Peer Counseling Manual. Watsonville, CA: Pejaro Valley Unified School District. (ERIC Document Reproduction Service No. Ed 203 256)

Rekrut, M. D. (1992, April). Teaching to learn: Cross-age tutoring to enhance strategy acquisition. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA. (ERIC Document Reproduction Service No. Ed 348 363)

Rekrut, M. D. (1994). Peer and cross-age tutoring: The lessons of research. Journal of Reading, 37(5), 356-362.

Schneider, R. B., & Barone, D. (1997, Spring). Cross-age tutoring. Childhhod Education, 73(3), 136-143.

Schrader, B., & Valus, A. (1990, May). Disabled learners as able teachers: A cross-age tutoring project. Academic Therapy, 25, 589-597.

Shapiro, E. S. (1988). Preventing academic failure. School Psychology Review, 17(4), 601-613.

Slavin, R. E. (1997). Educational psychology: Theory and practice (5th ed.). Boston, MA: Allyn and Bacon, 323-324.

Sprinthall, N., & Scott, J. (1989, October). Promoting psychological development, math achievement, and success attribution of female students through deliberate psychological education. Journal of Counseling Psychology, 36, 440-446.

Thompson, J. T. (1991). Establishing locus of control among ninth graders: Using peer mentors to reduce student disengagement, absenteeism, and failure. Ed. D. Practicum, Nova University. (ERIC Document Reproduction Service No. ED 337 738)

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